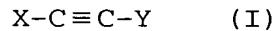


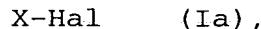
We claim:

1. A process for preparing organic alkyne compounds of the
5 formula I



by reacting organic halogen compounds of the formula Ia

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with organic terminal alkyne compounds of the formula Ib

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where X and Y are identical or different organic radicals

in inert solvents under the action of microwave energy,

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in the presence of at least one metal compound and at least one base,

wherein Hal is chlorine or bromine.

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2. A process as claimed in claim 1 which is carried out in the presence of at least one metal compound which comprises a metal selected from the group consisting of magnesium, calcium, strontium, barium, titanium, zirconium, hafnium, iron, ruthenium, osmium, cobalt, rhodium, iridium, nickel, palladium, platinum, copper, silver, gold, zinc, cadmium and mercury.

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3. A process as claimed in claim 1 which is carried out in the presence of a copper compound.

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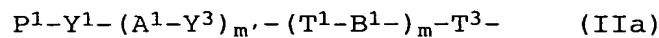
4. A process as claimed in any of claims 1 to 3, wherein X and Y are identical or different and are each organic radicals which contain saturated or unsaturated carbo- or heterocyclic radicals where both -Hal and H-C≡C- are bonded directly to said saturated or unsaturated carbo- or heterocyclic radicals.

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5. A process as claimed in any of claims 1 to 3, wherein

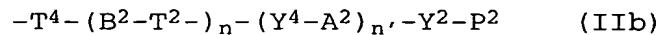
X is a radical of the formula IIIa

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and

5 Y is a radical of the formula IIb



where

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P¹ and P² are each independently hydrogen, C₁-C₂-alkyl, a polymerizable group, a group suitable for polymerization or a radical which carries a polymerizable group or a group suitable for polymerization,

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or

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P¹ and/or P² each corresponds to a radical P^{1'} and/or P^{2'} which denotes a precursor group which is stable under the reaction conditions which can be reacted to give or be substituted by the corresponding polymerizable group or group suitable for polymerization P¹ and/or P² or the radicals P¹ and/or P² which carry a polymerizable group or a group suitable for polymerization,

25

Y¹, Y², Y³ and Y⁴ are each independently a single chemical bond, -O-, -S-, -CO-, -CO-O-, -O-CO-, -CO-N(R)-, -(R)N-CO-, -O-CO-O-, -O-CO-N(R)-, -(R)N-CO-O- or -(R)N-CO-N(R)-,

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B¹ and B² are each independently a single chemical bond, -C≡C-, -O-, -S-, -CO-, -CO-O-, -O-CO-, -CO-N(R)-, -(R)N-CO-, -O-CO-O-, -O-CO-N(R)-, -(R)N-CO-O- or -(R)N-CO-N(R)-,

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each R is, independently and irrespective of the meaning in each of Y¹ to Y⁴, B¹ and B², hydrogen or C₁-C₄-alkyl,

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A¹ and A² are each independently spacers having from 1 to 30 carbon atoms,

T¹, T², T³ and T⁴ are each independently bivalent, saturated or unsaturated, carbo- or heterocyclic radicals and

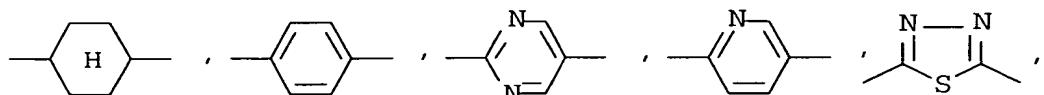
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m', m, n' and n are each independently 0 or 1.

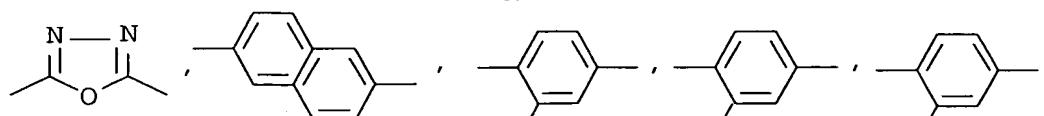
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6. A process as claimed in claim 5, wherein the T¹ to T⁴ radicals in the formulae IIIa and IIIb are selected from the group consisting of

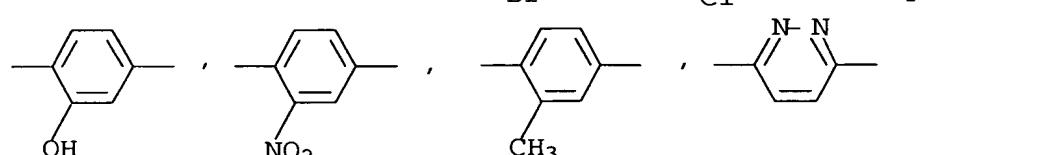
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and

7. A process as claimed in any of claims 1 to 6, wherein the inert solvent used is dimethylformamide or N-methylpyrrolidone or a mixture of the two.

8. A process as claimed in any of claims 1 to 6, wherein the inert solvent used is dimethylformamide.

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9. A process as claimed in any of claims 1 to 8, wherein the at least one base is a compound selected from the group consisting of alkali metal carbonates, alkali metal phosphates and tri(C₁-C₄-alkyl)amines.

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10. A process as claimed in any of claims 1 to 8, wherein the base used is at least one alkali metal carbonate.

11. A process as claimed in any of claims 1 to 8, wherein the base used is potassium carbonate.

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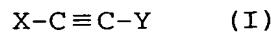
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Preparation of organic alkyne compounds

Abstract

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The present invention relates to a process for preparing organic alkyne compounds of the formula I

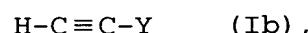


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by reacting organic halogen compounds of the formula Ia



15 with organic terminal alkyne compounds of the formula Ib



where X and Y are identical or different organic radicals and Hal
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